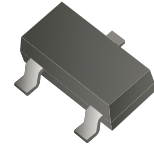


## CDSV3-4448-G

**Reverse Voltage: 75 Volts**

**Forward Current: 250 mA**

**RoHS Device**



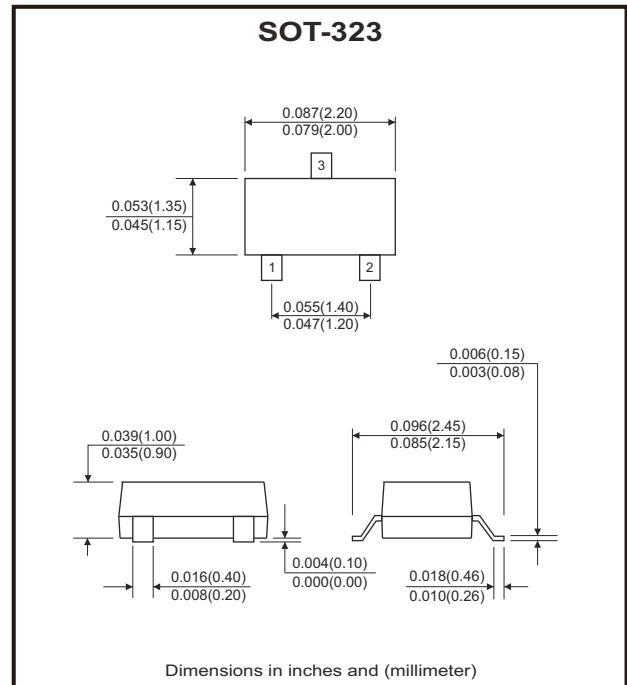
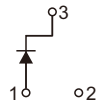
### Features

- Fast switching speed.
- Surface mount package ideally suited for automatic insertion.
- For general purpose switching applications.
- High conductance.

### Mechanical data

- Case: SOT-323, molded plastic.
- Terminals: Solderable per MIL-STD-750, method 2026.
- Weight: 0.006 grams approx.

### Circuit diagram



### Maximum Ratings (at Ta=25°C unless otherwise noted)

| Parameter                                          | Symbol          | Value       | Unit |
|----------------------------------------------------|-----------------|-------------|------|
| Non-repetitive peak reverse voltage                | $V_{RM}$        | 100         | V    |
| Peak repetitive peak reverse voltage               | $V_{RRM}$       | 75          | V    |
| Working peak reverse voltage                       | $V_{RWM}$       |             |      |
| DC blocking voltage                                | $V_R$           |             |      |
| RMS reverse voltage                                | $V_{R(RMS)}$    | 53          | V    |
| Forward continuous current                         | $I_{FM}$        | 500         | mA   |
| Average rectified output current                   | $I_O$           | 250         | mA   |
| Non-repetitive peak forward surge current @t=8.3ms | $I_{FSM}$       | 2           | A    |
| Power dissipation                                  | $P_D$           | 200         | mW   |
| Thermal resistance from junction to ambient        | $R_{\theta JA}$ | 625         | °C/W |
| Storage temperature range                          | $T_{STG}$       | -55 to +150 | °C   |

## Electrical Characteristics (at TA=25°C unless otherwise noted)

| Parameter                     | Symbol          | Conditions                                                                                         | Min. | Typ. | Max.  | Unit |
|-------------------------------|-----------------|----------------------------------------------------------------------------------------------------|------|------|-------|------|
| Forward voltage               | V <sub>F1</sub> | I <sub>F</sub> =5mA                                                                                | 0.62 |      | 0.72  | V    |
|                               | V <sub>F2</sub> | I <sub>F</sub> =10mA                                                                               |      |      | 0.855 | V    |
|                               | V <sub>F3</sub> | I <sub>F</sub> =100mA                                                                              |      |      | 1.0   | V    |
|                               | V <sub>F4</sub> | I <sub>F</sub> =150mA                                                                              |      |      | 1.25  | V    |
| Reverse current               | I <sub>R1</sub> | V <sub>R</sub> =75V                                                                                |      |      | 2.5   | μA   |
|                               | I <sub>R2</sub> | V <sub>R</sub> =20V                                                                                |      |      | 25    | nA   |
| Capacitance between terminals | C <sub>T</sub>  | V <sub>R</sub> =0V, f=1MHz                                                                         |      |      | 4     | pF   |
| Reverse recovery time         | T <sub>rr</sub> | I <sub>F</sub> =I <sub>R</sub> =10mA, I <sub>rr</sub> =0.1 x I <sub>R</sub> , R <sub>L</sub> =100Ω |      |      | 4     | ns   |

## Rating and Characteristic Curves (CDSV3-4448-G)

Fig.1 - Forward Characteristics

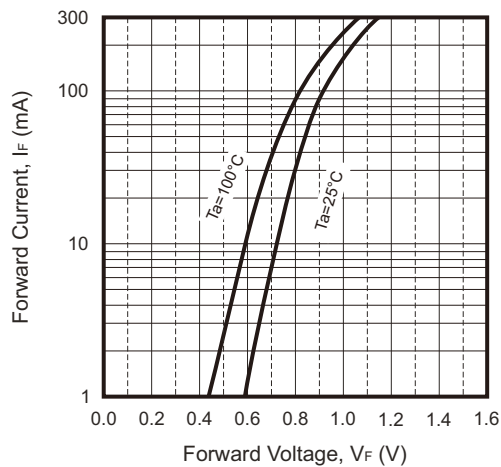


Fig.2 - Reverse Characteristics

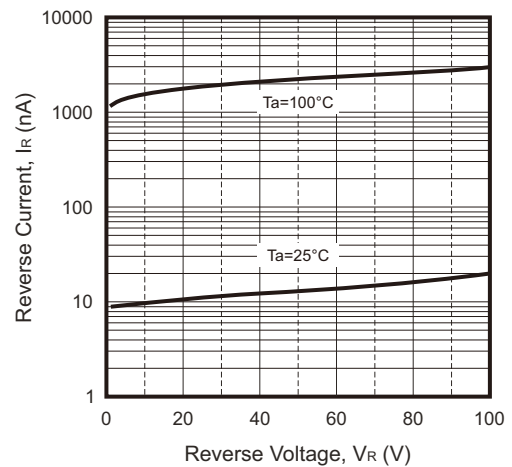


Fig.3 - Capacitance Characteristics

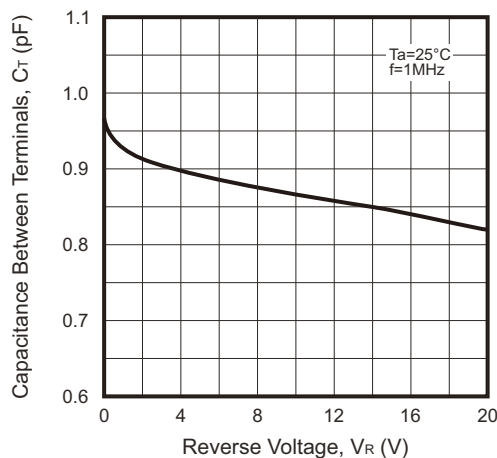
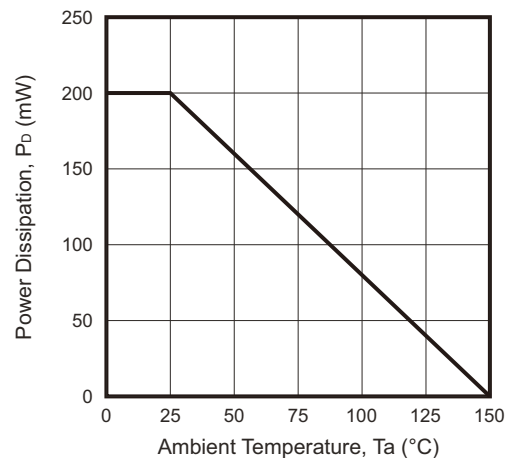
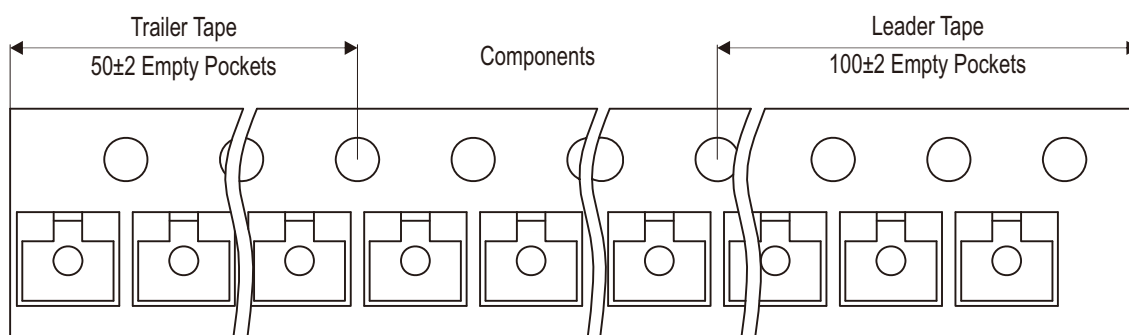
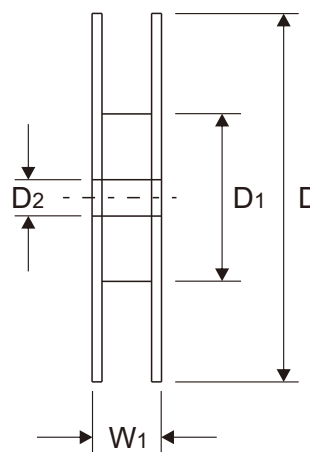
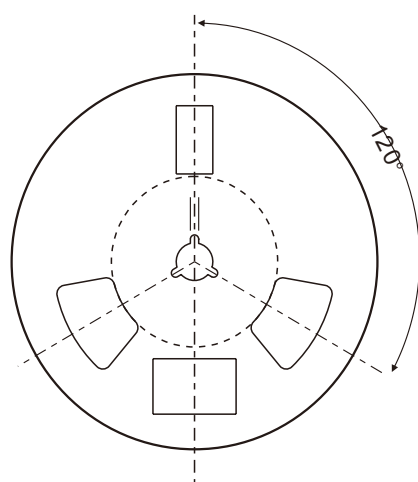
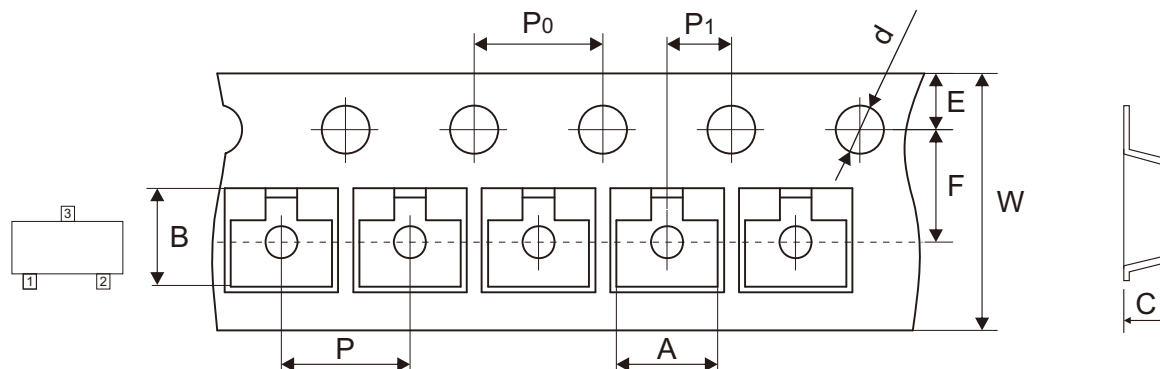


Fig.4 - Power Derating Curve



## Reel Taping Specification



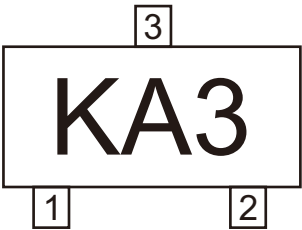
| SOT-323 | SYMBOL | A                 | B                 | C                 | d                 | D                 | D1                | D2                |
|---------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|         | (mm)   | $2.25 \pm 0.05$   | $2.55 \pm 0.05$   | $1.19 \pm 0.05$   | $1.55 \pm 0.10$   | $178.00 \pm 2.00$ | $54.40 \pm 1.00$  | $13.00 \pm 1.00$  |
|         | (inch) | $0.089 \pm 0.002$ | $0.100 \pm 0.002$ | $0.047 \pm 0.002$ | $0.061 \pm 0.004$ | $7.008 \pm 0.079$ | $2.142 \pm 0.039$ | $0.512 \pm 0.039$ |

| SOT-323 | SYMBOL | E                 | F                 | P                 | P0                | P1                | W                       | W1                |
|---------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------------|-------------------|
|         | (mm)   | $1.75 \pm 0.10$   | $3.50 \pm 0.10$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.10$   | $8.00 + 0.30 - 0.10$    | $12.30 \pm 1.00$  |
|         | (inch) | $0.069 \pm 0.004$ | $0.138 \pm 0.004$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.004$ | $0.315 + 0.012 - 0.004$ | $0.484 \pm 0.039$ |

Marking Code

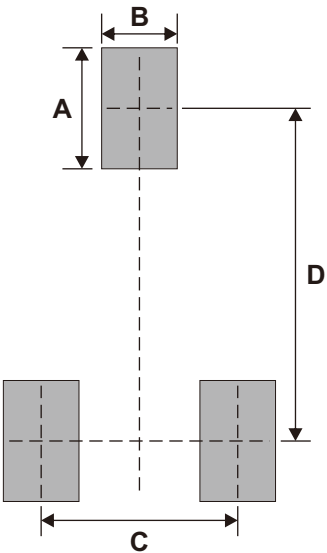
| Part Number  | Marking Code |
|--------------|--------------|
| CDSV3-4448-G | KA3          |



Suggested PAD Layout

| SIZE | SOT-323 |        |
|------|---------|--------|
|      | (mm)    | (inch) |
| A    | 0.80    | 0.031  |
| B    | 0.50    | 0.020  |
| C    | 1.30    | 0.051  |
| D    | 2.20    | 0.087  |

Notes: 1.General tolerance:  $\pm 0.05\text{mm}$ .  
2.The pad layout is for reference purposes only.



Standard Packaging

| Case Type | REEL PACK       |                     |
|-----------|-----------------|---------------------|
|           | REEL<br>( pcs ) | Reel Size<br>(inch) |
| SOT-323   | 3,000           | 7                   |